

User Requirements Working Group

Facilitators:

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User Requirements

Session I

- Define modeling and simulation emergency response applications
 - What applications are available or are under development?
 - What applications are required?
 - What are the priorities?
- Define role of modeling and simulation (M&S) for each phase
 - What role can M&S play through the different phases: planning, vulnerability, identification and detection, training, and real time response support?

Identifying Needs - Perspective and Discipline View

	Health	Law	Fire	Specialty (Rescue, Hazmat, Bomb)	EOC
Super	Public Health system	Mayor			Mayor/ elected head
Strategic	Med. Dir/	Sheriff or police chief			Dir of Emergency Mgt.
Op	Emergency Room director/EMS Incident commander	Watch commander/ substation	Battalion commander		Incident commander
Tactical	EMS	Patrol car/ Cops	Engine/ Firemen		Resource providers

View for every level of government -
We chose to focus on local.

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Example Needs - Healthcare

- **Super**
 - Communications
- **Strategic**
 - In a covert bio attack when will my med system realize the threat
 - ED/EMS strategic resource sizing
 - EMS strategic response plan design
 - EMS strategic plan validation
- **Operational**
 - What are the symptoms of this toxin
 - Overview of casualties/ fatalities
 - Media public comm.
 - EMS Ops – practice multi disciplinary operations
 - Overview of avail resources (beds, ICU, supplies, vaccines)
- **Tactical**
 - Training
 - bed availability
 - Practice cross discipline coordination

Replan for Session 2 - Identifying the User

- Focus on Cross-cutting issues
- Additional questions we suggested
 - Who will use the M&S outputs?
 - Who will create M&S models?
 - Who will provide inputs?
 - Where is the most critical need – planning, training, real time response...?
 - Where is the highest ROI – EOC, Health, Law, Fire....?

Communications (1 of 3)

- Need to define where data should be shared across cells
- Standard terminology across jurisdictions, levels of government and disciplines
- Not just the transport but the language too.

Communications (2 of 3)

- Resource planning - Need tools to evaluate and plan.
 - C-COM and others in army have models for determining network capacity. Need simpler tools than OPNET, things like Dr. H had..
 - Channels overloaded.
 - Use of simulation for communications system design.
- Information flow
 - Situational awareness and reporting
 - Simulate how to transform the data to information.
 - Recognize the natural rhythm of communications flow.
 - Latency of information needs to be addressed explicitly in simulation. Does it have to be instantaneous.
 - Discussed appropriate levels for filtering/abstraction - decided it should be a variable in M&S - for planning, training, response
 - Use optimization approaches to impact info processes. Use sim technology to analyze the info at the command centers.

Communications (3 of 3)

- Information flow has a rhythm that reflects the battle rhythm
 - Graphical representation to show rhythm - training.
 - Operational pause – halt information flow to make decisions
 - use simulation to identify times when needed
 - In training, stop and replay the simulation from that point.
 - Inject another set of data into simulation to reset and play from there on.
 - Need to define metrics – response windows for different scenarios. Analyze the markers to identify decision and event milestones.
 - Simulation to practice the tempo and rhythm, setting up the net, data entry, decision-making
- Accurate, up to date data – phone nos., contact info. , resources
- Problems – no recognition of authority, numbers out of date. Capture that uncertainty in the model
 - Have federal govt provide resources to check numbers regularly
- Analyze what is needed to support required communications when resources lost (e.g., a cell tower goes out)

Next Steps

- Establish list serv to proceed further on user requirements.
 - For further evaluation, choose top issues from Titan list to focus on
 - start with Communications, Coordination, command & control.
 - Identify groups working on common terminology
 - Identify available simulation capabilities and appropriate organizations
- NIST should take strawman to real users - They are ready to discuss this.
 - DHS – Directorate of Emergency Preparedness & Response (Ep&R) – Mike Brown, Rose Parks EP&R
 - Nat Em Mgt Association- Glen Woodberry, Current pres, from State of Wash., [www. Nemaweb.gov](http://www.Nemaweb.gov); Ed Jacobi, incoming president,
 - Int Assoc Em Managers – represents local guys,
 - Council of State Gov., National Governors Asso.